

Notice of Allowability

Application No.

09/876,492

Examiner

LaShonda T. Jacobs

Applicant(s)

MUTALIK ET AL.

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to January 9, 2006.
2. ☒ The allowed claim(s) is/are 1-12 and 14-36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


ARLETTE ETIENNE

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard Giunta Reg. No. 36,149 on March 2, 2005.

IN THE CLAIMS

Please cancel claim **13** without prejudice or disclaimer.

Please amend claims **1**, **14** and **24** as follows:

1. (Currently Amended) A method for mirroring data of a first storage area, comprising:
 - placing a second storage area in a first state, wherein the first state of the second storage area is a state in which updates to the first storage area are made to the second storage area;
 - mirroring data from the first storage area to the second storage area while the second storage area is in the first state;
 - changing a state of the second storage area from the first state to a second state in which updates to the first storage area are not made to the second storage area, wherein after the

Art Unit: 2157

changing act the second storage area contains a snapshot of data of the first storage area at a given time; [and]

restoring data to the first storage area from the second storage area while maintaining the second storage area in the second state;

updating, after the restoring act is complete, data within the first storage area such that the updated data within the first storage area is different from the snapshot of data; and

restoring, from the second storage area, the snapshot data to replace the updated data within the first storage area.

14. (Currently Amended) A storage system comprising:

a first storage area;

a second storage area; and

at least one controller that:

places the second storage area in a first state, wherein the first state of the second storage area is a state in which updates to the first storage area are made to the second storage area;

mirrors data from the first storage area to the second storage area while the second storage area is in the first state;

changes a state of the second storage area from the first state to a second state in which updates to the first storage area are not made to the second storage area, wherein after the changing act the second storage area contains a snapshot of data of the first storage area at a given time; [and]

restores data to the first storage area from the second storage area while maintaining the second storage area in the second state;

updates, after the restoring act is complete, data within the first storage area such that the updated data within the first storage area is different from the snapshot of data; and

restores, from the second storage area, the snapshot data to replace the updated data within the first storage area.

24. (Currently Amended) A computer readable medium encoded with a computer program that, when executed on a computer system, causes the computer system to perform a method comprising acts of:

placing a second storage area in a first state, wherein the first state of the second storage area is a state in which updates to the first storage area are made to the second storage area;

mirroring data from the first storage area to the second storage area while the second storage area is in the first state;

changing a state of the second storage area from the first state to a second state in which updates to the first storage area are not made to the second storage area, wherein after the changing act the second storage area contains a snapshot of data of the first storage area at a given time; [and]

restoring data to the first storage area from the second storage area while maintaining the second storage area in the second state,

updating, after the restoring act is complete, data within the first storage area such that the updated data within the first storage area is different from the snapshot of data; and restoring, from the second storage area, the snapshot data to replace the updated data within the first storage area.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: the closest prior art of record (Ohran et al U.S. pat. No. 6,397,307) does not teach or suggest in detail wherein after the changing act, the second storage area contains a snapshot of the first storage area at a given time; updating, after the restoring act is complete, data within the first storage area such that the updated data within the first storage area is different from the snapshot of data; and restoring, from the second storage area, the snapshot data to replace the updated data within the first storage area in combination with all the elements of the independent claims.

3. The dependent claims further limit the independent claims and are considered allowable on the same basis as the independent claims as well as for the further limitations set forth.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and to, avoid processing delays, should preferably accompany the issue fee.

Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance"

4. Claims 1-12 and 14-36 are allowed.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 571-272-4004. The examiner can normally be reached on 8:30 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShonda T Jacobs
Examiner
Art Unit 2157

ltj
March 3, 2006


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
ELECTRONIC BUSINESS CENTER 2100